

CLAIMS

1. A method of producing a carbon heating element, comprising the steps of mixing a composition having shapability and showing a substantially nonzero yield of a carbon residue after firing with one or at least two metal or metalloid compounds, and firing the mixture.

2. The method of producing a carbon heating element according to claim 1, wherein the metal or metalloid compounds are metal carbides, metal borides, metal silicides, metal nitrides, metal oxides, metalloid nitrides, metalloid oxides or metalloid carbides.

3. The method of producing a carbon heating element according to claim 1, wherein the composition comprises resin.

4. The method of producing a carbon heating element according to claim 1, wherein the composition comprises one or at least two carbon powders selected from the group consisting of carbon black, graphite and coke powder.

5. A carbon heating element characterized by that the carbon heating element is obtained by mixing a composition having shapability and showing a substantially nonzero yield of a carbon residue after firing with one or at least two metal or metalloid compounds, and firing the mixture.

6. The carbon heating element according to claim 5, wherein the metal or metalloid compounds are metal carbides, metal borides, metal silicides, metal nitrides, metal oxides, metalloid nitrides, metalloid oxides or metalloid carbides.

7. The carbon heating element according to claim 5, wherein the composition comprises resin.

8. The carbon heating element according to claim 5, wherein the composition comprises one or at least two carbon powders selected from the group consisting of carbon black, graphite and coke powder.

9. The carbon heating element according to claim

5, wherein the carbon heating element shows a specific resistance of 0.3 to  $200 \times 10^{-3} \Omega \cdot \text{cm}$ .

5        10. The carbon heating element according to claim 5, wherein the carbon heating element has such a cross-sectional shape that the cross-sectional area is from 0.1 to 100 mm<sup>2</sup>.

10       11. The carbon heating element according to claim 5, wherein the carbon heating element is used in a heat-resistant vessel which is closed and has therewithin an atmosphere made inactive with an inert gas.